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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,984	08/18/2003	Henricus Peerlings	PO-7784/LeA 36,205	3487
157	7590	06/28/2006	EXAMINER	
BAYER MATERIAL SCIENCE LLC			SERGENT, RABON A	
100 BAYER ROAD			ART UNIT	
PITTSBURGH, PA 15205			PAPER NUMBER	

1711

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/642,984

Applicant(s)

PEERLINGS ET AL.

Examiner

Rabon Sergeant

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-5,8 and 10-13 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 3-5,8,10,11 and 13 is/are rejected.
7) ☒ Claim(s) 12 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

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1. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The language, “(1) said prepolymer”, lacks antecedence fro claim 11. Claim 11 refers to “(a) said prepolymer”.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 3-5, 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quiring et al. ('684) in view of Pelletier et al. ('047) or Lee ('914) or Lee et al. ('562).

Quiring et al. disclose thermoplastic polyurethanes derived from reactants that correspond to applicants' components (A), (B), and (C) that may be produced by the prepolymer process. See abstract; column 1, lines 55+; column 2; and column 3, lines 12-14. Quiring et al. further disclose within Tables 6 and 8 that tensile strengths in excess of 35 MPa are realized.

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4. Quiring et al. fail to disclose applicants' component (D); however, the use of isocyanate reactive phosphonates and phosphine oxides, which correspond to those of applicants, as reactants for the production of polyurethanes was known at the time of invention. Pelletier et al. disclose that the incorporation of hydroxyl functional phosphonates within a polyurethane composition conveys fire retardant properties to the polymer. See abstract and column 1. Similarly, Lee discloses that the incorporation of hydroxyl functional phosphine oxides within a polyurethane composition conveys fire retardant properties to the polymer. See abstract. Lee et al. discloses that that the incorporation of hydroxyl functional phosphine oxides within a polyurethane composition improves physical properties such as increasing tensile strength. See abstract; column 2, lines 32+; and column 5, lines 32-36.

5. Therefore, in view of the advantages of incorporating hydroxyl functional phosphonates or phosphine oxides into polyurethanes, as demonstrated by the secondary references, the position is taken that it would have been *prima facie* obvious to one of ordinary skill in the art to incorporate such compounds into the thermoplastic polyurethane of Quiring et al., so as to obtain a product having improved fire retardancy and/or increased tensile strength.

6. Claims 3-5, 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Batt et al. ('617) in view of Pelletier et al. ('047) or Lee ('914) or Lee et al. ('562).

Batt et al. disclose thermoplastic polyurethanes derived from reactants that correspond to applicants' components (A), (B), and (C) that may be produced by the prepolymer process. Batt et al. further disclose that tensile strengths greater than 35 MPa may be realized. See abstract; column 1, lines 49+; columns 2-4; column 5, lines 3-2, and Table 8.

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7. Batt et al. fail to disclose applicants' component (D); however, the use of isocyanate reactive phosphonates and phosphine oxides, which correspond to those of applicants, as reactants for the production of polyurethanes was known at the time of invention. Pelletier et al. disclose that the incorporation of hydroxyl functional phosphonates within a polyurethane composition conveys fire retardant properties to the polymer. See abstract and column 1. Similarly, Lee discloses that the incorporation of hydroxyl functional phosphine oxides within a polyurethane composition conveys fire retardant properties to the polymer. See abstract. Lee et al. discloses that that the incorporation of hydroxyl functional phosphine oxides within a polyurethane composition improves physical properties such as increasing tensile strength. See abstract; column 2, lines 32+; and column 5, lines 32-36.

8. Therefore, in view of the advantages of incorporating hydroxyl functional phosphonates or phosphine oxides into polyurethanes, as demonstrated by the secondary references, the position is taken that it would have been *prima facie* obvious to one of ordinary skill in the art to incorporate such compounds into the thermoplastic polyurethane of Batt et al., so as to obtain a product having improved fire retardancy and/or increased tensile strength.

9. The examiner has carefully considered applicants' arguments of March 16, 2006; however, the arguments are insufficient to overcome the prior art rejections. Firstly, it is noted that applicants may not discount or ignore teachings within the prior art, simply because they may not be exemplified. Secondly, applicants' examples are based upon compositions derived from prepolymers derived from polyether polyols; however, applicants' claims are not so limited; therefore, applicants' examples are not commensurate in scope with the claims. Accordingly, applicants' examples are ineffective to establish any showing of unexpected results

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commensurate in scope with the claims that substantiates applicants' arguments that the claimed features of the invention are critical. For example, in the absence of showings commensurate in scope with the claims, applicants have failed to demonstrate that a prepolymer method yields unexpected results relative to a one-shot method. Furthermore, since the claims are not limited to polyether polyols, the position is taken that of the various polyols disclosed within the prior art, the polyether polyol is not necessarily the most relevant disclosed species; therefore, applicants' comparative examples based upon polyether polyols are not adequately representative of the prior art.

10. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.


RABON SERGENT
PRIMARY EXAMINER

R. Sergent
June 25, 2006